

REMARKS

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Eriksson (U.S. Patent Number 6,628,923). Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Dieterich (U.S. Patent Number 5,208,596). Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Becker, *et al.* (U.S. Patent Number 5,929,628). Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson in view of Becker, *et al.*, and further in view of Dieterich. In view of the following remarks, the rejections are respectfully traversed, and reconsideration of the rejections is requested.

In the present invention as claimed in claims 1 and 2, a filter characteristic measuring method includes generating an impulse signal, applying the impulse signal to a DUT having an analog filter through a digital channel, and measuring a gain of the analog filter in the DUT and a frequency characteristic by using an output of the analog filter.

In the present invention as claimed in claim 3, an analog filter characteristic method includes applying an impulse signal to an equalizing filter, and then obtaining an output response of the equalizing filter. The method further includes performing a differential and a fast Fourier transform (FFT) operation on the output response of the equalization filter so as to measure a boosting gain and a frequency response.

In the present invention as claimed in claims 4-6, a system for measuring a characteristic of a filter in a DUT employing an analog filter includes a digital channel that provides an impulse signal without applying a sine wave to the analog filter of the DUT. The system further includes a digitizer that receives an output signal of the analog filter and measures the characteristic of the filter.

Eriksson discloses a system for compensating for non-linearity of one of a radio frequency/intermediate frequency (RF/IF) device 12. A reference signal generator 14 generates a reference signal which is swept over a plurality of frequencies of a predetermined bandwidth or is an impulse signal containing all of the frequencies of the predetermined bandwidth. The reference signal is fed through a digital-to-analog filter to the RF/IF device 12 (see Eriksson column 3, lines 32-34).

With regard to the rejection of claim 1 as being anticipated by Eriksson, Eriksson fails to teach or suggest a filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Instead, in Eriksson, the reference signal is fed through a digital-to-analog filter before being applied to the RF/IF device 12, therefore the reference signal is not applied to the RF/IF through a digital channel.

Eriksson fails to teach or suggest elements of the invention set forth in claims 1 and 2. Specifically, Eriksson fails to teach or suggest a filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Therefore, it is believed that the claims are allowable over the cited reference, and reconsideration of the rejections of claims 1 under 35 U.S.C. 102(e) as being anticipated by Eriksson, is respectfully requested.

With regard to the rejection of claims 2 and 3 as being unpatentable over Eriksson and Dieterich, it is stated in the Office Action, at page 3, paragraph 3, that Eriksson fails to teach the analog filter is an equalizing filter and applying an impulse signal to an equalizing filter and performing a differential and a fast Fourier transform operation on an output response of the equalizing filter and measuring a boosting gain and frequency response.

Dieterich discloses a analog baseband composite television signal coupled to an analog-to-digital converter 14 which develops a digital composite signal. The digital composite signal is applied to an equalizing filter 15, an analyzer 16 and a source reference values 22. A deghosted signal is output from the equalizing filter 15 and is applied to a digital-to-analog converter 18 which restores the signal to analog form.

Dieterich fails to teach or suggest filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2. Instead, in Dieterich the digital composite signal is not applied to a DUT. In addition, Dieterich fails to teach or suggest performing a differential and a fast Fourier transform (FFT) operation on the output response of the equalization filter so as to measure a boosting gain and a frequency response, as claimed in claim 3. Instead, in Dieterich, the deghosted signal that is output from the equalizing filter is output to the digital-to-analog converter 18.

Dieterich, like Eriksson, fails to teach or suggest elements of the invention set forth in claims 1, 2 and 3. Specifically, Dieterich fails to teach or suggest filter characteristic measuring method that includes applying an impulse signal to a DUT having an analog filter through a digital channel, as claimed in claims 1 and 2, and performing a differential and a fast Fourier transform (FFT) operation on the output response of the equalization filter so as to measure a boosting gain and a frequency response, as claimed in claim 3. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Neither of the references, taken alone or in combination, teaches or suggests the invention set forth in claims 1, 2 and 3. Therefore, it is believed that claims 1, 2 and 3 are allowable over the cited references, and reconsideration of the rejections of claims 2 and 3 under 35 U.S.C. § 103(a) based on Eriksson and Dieterich, is respectfully requested.

With regard to the rejection of claims 4 and 5 as being unpatentable over Eriksson and Becker, *et al.*, Eriksson fails to teach or suggest a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6. Instead, in Eriksson, the reference signal is fed through a digital-to-analog filter 18 before being applied to the RF/IF device 12. Thus, the digital-to-analog 18 is not part of the RF/IF and a digital signal is not applied to the RF/IF device 12.

Becker, *et al.* is cited in the Office Action as disclosing a controller 206 for controlling the digital channel 212 and the digitizer 220. Becker, *et al.* fails to teach or suggest a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6.

Eriksson and Becker, *et al.* fail to teach or suggest elements of the invention set forth in claims 4-6. Specifically, Eriksson and Becker, *et al.* fail to teach or suggest a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6. Accordingly, there is no combination of the references which would provide such teaching or suggestion. Neither of the references, taken alone or in combination, teaches or suggests the invention set forth in claims 4-6. Therefore, it is believed that claims 4-6 are allowable over the cited references, and reconsideration of the rejections of claims 4-6 under

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35 U.S.C. § 103(a) based on Eriksson and Becker, *et al.*, is respectfully requested.

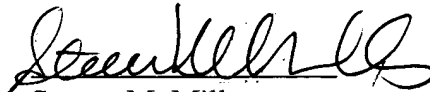
With regard to the rejection of claim 6 as being unpatentable over Eriksson, Becker, *et al.* and Dieterich, Dieterich discloses a deghosting apparatus includes an equalizing filter 15. Dieterich fails to teach or suggest a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6.

Dieterich, like Eriksson and Becker, *et al.*, fails to teach or suggest elements of the invention set forth in claims 4-6. Specifically, Eriksson, Becker, *et al.* and Dieterich fail to teach or suggest a digital channel for providing an impulse signal without applying a sine wave to an analog filter of a DUT, as claimed in claims 4-6. Accordingly, there is no combination of the references which would provide such teaching or suggestion. None of the references, taken alone or in combination, teaches or suggests the invention set forth in claims 4-6. Therefore, it is believed that claims 4-6 are allowable over the cited references, and reconsideration of the rejections of claim 6 under 35 U.S.C. § 103(a) based on Eriksson, Becker, *et al.* and Dieterich, is respectfully requested.

In view of the foregoing remarks, it is believed that all claims pending in the application are in condition for allowance, and such allowance is respectfully solicited. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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